WHAT IS CLAIMED IS:

1. A halogenated bisdiarylaminopolycyclic aromatic monomer represented by the

formula:

wherein Ar and Ar' are each independently substituted or unsubstituted aryl groups and Z is a polycyclic arylene group, wherein at least one of the Ar' groups contains a haloaryl group.

- 2. The monomer of Claim 1 wherein both of the of the Ar' groups is a haloaryl group and each of the Ar groups is substituted.
- 3. The monomer of Claim 2 which is represented by the following formula:

10

15

5

wherein each R' is independently a C_1 - C_{20} alkyl group, a carbo- C_1 - C_{20} -alkoxy group, a C_1 - C_{20} -alkoxy group, or a C_6 - C_{40} aryl group.

4. The monomer of Claim 3 wherein each R' is methyl, ethyl, carbomethoxy, carboethoxy, methoxy, ethoxy, or hexyloxy, and Z is selected from the group consisting of 2,1,3-benzothiadiazole-4,7-diyls, 9,9-disubstituted fluorene-2,7-diyls, naphthalene-1,4-diyls, anthracene-9,10-diyls, and quinoxaline-5,8-diyls.

WO 2005/049546 PCT/US2004/036707

5. A polymer comprising a backbone containing structural units of a bisdiarylaminopolycyclic aromatic monomer as shown:

5

wherein each Ar is independently a substituted or unsubstituted aryl group; each Ar" is a substituted or unsubstituted arylene group; and Z is a polycyclic arylene group.

- The polymer of Claim 5 which further comprises structural units selected from the group consisting of 1,4-phenylenes, 1,3- phenylenes, 1,2- phenylenes, 4,4'- biphenylenes, naphthalene-1,4-diyls, naphthalene-2,6-diyls, furan-2,5-diyls, thiophene-2,5-diyls, 2,2'-bithiophene-5,5-diyls, anthracenes-9,10-diyls, 2,1,3-benzothiadiazoles-4,7-diyls, N-substituted carbazole-3,6-diyls, N-substituted carbazole-2,7-diyls, dibenzosilole-3,8-diyls, dibenzosilole-4,7-diyls, N-substituted-phenothiazine-3,7-diyls, N-substituted-phenoxazine-3,7-diyls, triarylamine-diyls including triphenylamine-4,4'-diyls, diphenyl-p-tolylamine-4,4'-diyls, and N,N-diphenylaniline-3,5-diyls, N,N,N',N'-tetraaryl-1,4-diaminobenzene-diyls, N,N,N',N'-tetraarylbenzidine-diyls, arylsilane-diyls, and 9,9-disubstituted fluorenes-2,7-diyls.
 - 7. The polymer of Claim 5 wherein the polymer backbone further comprises structural units selected from the group consisting of 9,9-bis(4-hexyloxyphenyl)fluorene-2,7-diyl, 9,9-dioctylfluorene-2,7-diyl, 9,9-dihexylfluorene-2,7-diyl,and 2,1,3-benzothiadiazol-4,7-diyl.
- 20 8. The polymer of Claim 5 wherein Ar is selected from the group consisting of methylphenyl, ethylphenyl, carbomethoxyphenyl, carboethoxyphenyl, methoxyphenyl, ethoxyphenyl, and hexyloxyphenyl; Ar" is phenylene; and Z is selected from the group consisting of 2,1,3-benzothiadiazole-4,7-diyls, 9,9-disubstituted fluorene-2,7-diyls, naphthalene-1,4-diyls, anthracene-9,10-diyls, and quinoxaline-5,8-diyls.

WO 2005/049546 PCT/US2004/036707

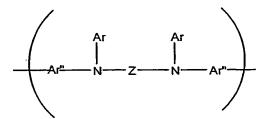
9. The polymer of Claim 8 wherein Ar is p-methylphenyl and Z is selected from the group consisting of 2,1,3-benzothiadiazole-4,7-diyl, 9,9-bis(4-hexyloxyphenyl)fluorene-2,7-diyl, 9,9-dioctylfluorene-2,7-diyl, 9,9-dihexylfluorene-2,7-diyl, naphthalene-1,4-diyl, anthracene-9,10-diyl, and quinoxaline-5,8-diyl.

- 5 10. A composition comprising a mixture of the polymer of Claim 5 and a solvent for the polymer.
 - 11. A composition comprising a mixture of the polymer of Claim 5 and another polymer.
 - 12. An electronic device comprising a thin film of a polymer disposed between an anode and a cathode, which polymer has structural units as shown:

10

15

20



wherein each Ar is independently a substituted or unsubstituted aryl group; each Ar" is a substituted or unsubstituted arylene group; and Z is a polycyclic arylene group.

- 13. The electronic device of Claim 12 wherein the polymer further includes structural units of 1,4-phenylenes, 1,3- phenylenes, 1,2- phenylenes, 4,4'-biphenylenes, naphthalene-1,4-diyls, naphthalene-2,6-diyls, furan-2,5-diyls, thiophene-2,5-diyls, 2,2'-bithiophene-5,5-diyls, anthracenes-9,10-diyls, 2,1,3-benzothiadiazoles-4,7-diyls, N-substituted carbazole-3,6-diyls, N-substituted carbazole-2,7-diyls, dibenzosilole-3,8-diyls, dibenzosilole-4,7-diyls, N-substituted-phenothiazine-3,7-diyls, N-substituted-phenoxazines-3,7-diyls, triarylamine-diyls including triphenylamine-4,4'-diyls, diphenyl-p-tolylamine-4,4'-diyls, and N,N-diphenylaniline-3,5-diyls, N,N,N',N'-tetraaryl-1,4-diaminobenzene-diyls, N,N,N',N'-tetraarylbenzidine-diyls, arylsilane-diyls, and 9,9-disubstituted fluorenes-2,7-diyls.
- 14. The device of Claim 13 wherein Ar is p-methylphenyl, Ar" is phenyl, and Z is selected from the group consisting of 2,1,3-benzothiadiazole-4,7-diyl, 9,9-bis(4-

WO 2005/049546 PCT/US2004/036707

hexyloxyphenyl)fluorene-2,7-diyl, 9,9-dioctylfluorene-2,7-diyl, 9,9-dihexylfluorene-2,7-diyl, naphthalene-1,4-diyl, anthracene-9,10-diyl, and quinoxaline-5,8-diyl.

: